

WHAT IS CLAIMED IS:

1. A powertrain of an automatic transmission, comprising:

a first planetary gear set having first, second, and third operational elements, the first, second, and third operational elements occupying sequential positions in a lever
5 diagram;

a second planetary gear set having fourth, fifth, and sixth operational elements, the fourth, fifth, and sixth operational elements occupying sequential positions in a lever diagram; and

a third planetary gear set having seventh, eighth, and ninth operational elements, the seventh, eighth, and ninth operational elements occupying sequential positions in a
10 lever diagram,

wherein:

the first operational element is fixedly connected to the fourth operational element and always receives an input torque;

15 the second operational element is fixedly connected to the seventh operational element and always outputs an output torque;

the third operational element is variably connected to either of the eighth operational element and the ninth operational element via a second clutch;

20 the fifth operational element is variably connected to the ninth operational element via a first clutch;

the sixth operational element is always stationary;

the eighth operational element is variably connected to an input shaft via a third clutch and is subject to a stopping operation of a first brake; and

25 the ninth operational element is subject to a stopping operation of a second brake.

2. The powertrain of claim 1, wherein the third operational element is variably connected to the eighth operational element via the second clutch.

30 3. The powertrain of claim 2, wherein:

the first and second planetary gear sets are single pinion planetary gear sets;

the first, second, and third operational elements are respectively a sun gear, a carrier, and a ring gear of the first planetary gear set; and

the fourth, fifth, and sixth operational elements are respectively a ring gear, a carrier, and a sun gear of the second planetary gear set.

5

4. The powertrain of claim 2, wherein:
the third planetary gear set is a double pinion planetary gear set; and
the seventh, eighth, and ninth operational elements are respectively a sun gear, a ring gear, and a carrier of the third planetary gear set.

10

5. The powertrain of claim 2, wherein the first, second, and third planetary gear sets are arranged in the order of the first, third, and second planetary gear sets.

15

6. A powertrain of an automatic transmission, comprising:
a first operational element fixedly connected to a fourth operational element, and configured to always receive an input torque;
a second operational element fixedly connected to a seventh operational element and configured to always output an output torque;
a third operational element variably connected to either of an eighth operational element or a ninth operational element via a second clutch;
a fifth operational element variably connected to the ninth operational element via a first clutch; and
a sixth operational element configured to be stationary;
wherein the eighth operational element is variably connected to an input shaft via a third clutch and is subject to a stopping operation of a first brake, and the ninth operational element is subject to a stopping operation of a second brake.

20

25

7. The powertrain of claim 6, wherein the third operational element is variably connected to the eighth operational element via the second clutch.

30

8. The powertrain of claim 6, wherein:

the first, second and third operation elements comprise a first planetary gear set;

the fourth, fifth and sixth operational elements comprise a second planetary gear set; and

5 the seventh, eighth and ninth operational elements comprise a third planetary gear set.